

# EXHIBIT 9



The Ultimate Computer Reference

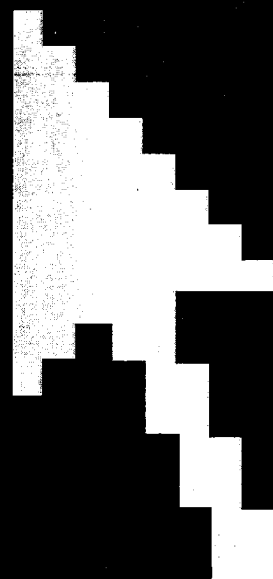


*The Comprehensive Standard for  
Business, School, Library, and Home*



# Microsoft Press<sup>®</sup> **Computer Dictionary** Third Edition

- Over 300 illustrations and diagrams
- Extensive Internet coverage
- Featured in Microsoft<sup>®</sup> Bookshelf<sup>®</sup>
- Covers software, hardware, concepts, and more!



**Microsoft Press**

**PUBLISHED BY**

Microsoft Press

A Division of Microsoft Corporation

One Microsoft Way

Redmond, Washington 98052-6399

Copyright © 1997 by Microsoft Corporation

All rights reserved. No part of the contents of this book may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Library of Congress Cataloging-in-Publication Data

Microsoft Press Computer Dictionary. -- 3rd ed.

p. cm.

ISBN 1-57231-446-X

1. Computers--Dictionaries. 2. Microcomputers--Dictionaries.

I. Microsoft Press.

QA76.15.M54 1997

004'.03--dc21

97-15489

CIP

Printed and bound in the United States of America.

4 5 6 7 8 9 QMQM 2 1 0 9 8

Distributed to the book trade in Canada by Macmillan of Canada, a division of Canada Publishing Corporation.

A CIP catalogue record for this book is available from the British Library.

Microsoft Press books are available through booksellers and distributors worldwide. For further information about international editions, contact your local Microsoft Corporation office. Or contact Microsoft Press International directly at fax (425) 936-7329.

Macintosh, Power Macintosh, QuickTime, and TrueType are registered trademarks of Apple Computer, Inc. Intel is a registered trademark of Intel Corporation. DirectInput, DirectX, Microsoft, Microsoft Press, MS-DOS, Visual Basic, Visual C++, Win32, Win32s, Windows, Windows NT, and XENIX are registered trademarks and ActiveMovie, ActiveX, and Visual J++ are trademarks of Microsoft Corporation. Java is a trademark of Sun Microsystems, Inc. Other product and company names mentioned herein may be the trademarks of their respective owners.

**Acquisitions Editor:** Kim Fryer

**Project Editor:** Maureen Williams Zimmerman, Anne Taussig

**Technical Editors:** Dail Magee Jr., Gary Nelson, Jean Ross, Jim Fuchs, John Conrow, Kurt Meyer, Robert Lyon, Roslyn Lutsch

**base RAM** \bās' ram, R-A-M\ *n.* See conventional memory.

**Basic** or **BASIC** \bā'sik, B`A-S-I-C\ *n.* Acronym for **B**eginner's **A**ll-purpose **S**ymbolic **I**nstruction **C**ode, a high-level programming language developed in the mid-1960s by John Kemeny and Thomas Kurtz at Dartmouth College. It is widely considered one of the easiest programming languages to learn. *See also* True BASIC, Visual Basic.

**Basic Rate Interface** \bā'sik rāt in'tər-fās\ *n.* See BRI.

**.bat** \dot-bat', -B`A-T\ *n.* The file extension that identifies a batch program file. In MS-DOS, .bat files are executable files that contain calls to other program files. *See also* batch file.

**batch** \bach\ *n.* A group of documents or data records that are processed as a unit. *See also* batch job, batch processing.

**batch file** \bach' fīl\ *n.* An ASCII text file containing a sequence of operating-system commands, possibly including parameters and operators supported by the batch command language. When the user types a batch filename at the command prompt, the commands are processed sequentially. *Also called* batch program. *See also* AUTOEXEC.BAT, .bat.

**batch file transmission** \bach' fīl tranz-mish'an\ *n.* The transmission of multiple files as the result of a single command. *Acronym:* BFT (B`F-T).

**batch job** \bach' job\ *n.* A program or set of commands that runs without user interaction. *See also* batch processing.

**batch processing** \bach' pros'es-ēng\ *n.* **1.** Execution of a batch file. *See also* batch file. **2.** The practice of acquiring programs and data sets from users, running them one or a few at a time, and then providing the results to the users. **3.** The practice of storing transactions for a period of time before they are posted to a master file, typically in a separate operation undertaken at night. *Compare* transaction processing.

**batch program** \bach' prō'gram\ *n.* A program that executes without interacting with the user. *See also* batch file. *Compare* interactive program.

**batch system** \bach' si'stəm\ *n.* A system that processes data in discrete groups of previously scheduled operations rather than interactively or in real time.

**batch total** \bach' tō'təl\ *n.* A total calculated for an element common to a group (batch) of records, used as a control to verify that all information is accounted for and has been entered correctly. For example, the total of a day's sales can be used as a batch total to verify the records of all individual sales.

**battery** \bat'ər-ē\ *n.* Two or more cells in a container that produces an electrical current when two electrodes within the container touch an electrolyte. In personal computers, batteries are used as an auxiliary source of power when the main power is shut off, as a power source for laptop and notebook computers (rechargeable batteries, such as nickel cadmium, nickel metal hydride, and lithium ion, are used), and as a method to keep the internal clock and the circuitry responsible for the part of RAM that stores important system information always powered up. *See also* lead ion battery, lithium ion battery, nickel cadmium battery, nickel metal hydride battery, RAM.

**battery backup** \bat'ər-ē bak'up\ *n.* **1.** A battery-operated power supply used as an auxiliary source of electricity in the event of a power failure. **2.** Any use of a battery to keep a circuit running when the main power is shut off, such as powering a computer's clock/calendar and the special RAM that stores important system information between sessions. *See also* UPS.

**battery meter** \bat'ər-ē mē'tər\ *n.* A device used to measure the current (capacity) of an electrical cell.

**baud** \bād, bōd\ *n.* One signal change per second, a measure of data transmission speed. Named after the French engineer and telegrapher Jean-Maurice-Emile Baudot and originally used to measure the transmission speed of telegraph equipment, the term now most commonly refers to the data transmission speed of a modem. *See also* baud rate.

**Baudot code** \bō-dō' kōd'\ *n.* A 5-bit coding scheme used principally for telex transmissions, originally developed for telegraphy by the French engineer and telegrapher Jean-Maurice-Emile Baudot. Sometimes it is equated, although inaccurately, with the International Alphabet Number 2 proposed by the Comité Consultatif International Télégraphique et Téléphonique (CCITT).

operating system and resides there for as long as the computer is on. *Compare* external command.

**internal font** \in-tər-nəl font\ *n.* A font that is already loaded in a printer's memory (ROM) when the printer is shipped. *Compare* downloadable font, font cartridge.

**internal interrupt** \in-tər-nəl in-tər-upt\ *n.* An interrupt generated by the processor itself in response to certain predefined situations, such as an attempt to divide by zero or an arithmetic value exceeding the number of bits allowed for it. *See also* interrupt. *Compare* external interrupt.

**internal memory** \in-tər-nəl mem-ər-ē\ *n.* *See* primary storage.

**internal modem** \in-tər-nəl mō-dəm\ *n.* A modem constructed on an expansion card to be installed in one of the expansion slots inside a computer. *Compare* external modem, integral modem.

**internal schema** \in-tər-nəl skē-mə\ *n.* A view of information about the physical files composing a database, including filenames, file locations, accessing methodology, and actual or potential data derivations, in a database model such as that described by ANSI/X3/SPARC, that supports a three-schema architecture. The internal schema corresponds to the schema in systems based on CODASYL/DBTG. In a distributed database, there may be a different internal schema at each location. *See also* conceptual schema, schema.

**internal sort** \in-tər-nəl sōrt\ *n.* **1.** A sorting operation that takes place on files completely or largely held in memory rather than on disk during the process. **2.** A sorting procedure that produces sorted subgroups of records that will be subsequently merged into one list.

**International Federation of Information Processing** \in-tər-nash-ə-nəl fed-ər-ā-shən əv in-fər-mā-shən pros-es-ēng\ *n.* *See* IFIP.

**International Organization for Standardization** \in-tər-nash-ə-nəl ōr-gə-nə-zā-shən fōr stan-dər-dā-zā-shən\ *n.* *See* ISO.

**International Telecommunications Union** \in-tər-nash-ə-nəl tel-ə-kə-myōō-nə-kā-shənz yōōn-yən\ *n.* An intergovernmental organization responsible for making recommendations and standardization regarding telephone and data communications systems for public and private

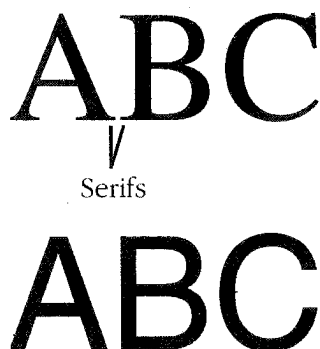
telecommunication organizations. The ITU was founded in 1865 and became an agency of the United Nations in 1947. The ITU was formerly known as CCITT (Comité Consultatif International Télégraphique et Téléphonique) and changed its name to ITU in March 1993. They may be contacted at International Telecommunications Union, Information Services Department, Place des Nations, 1211 Geneva 20, Switzerland. Telephone: +41 (22) 730 5554. Fax: +41 (22) 730 5337. E-mail: helpdesk@itu.ch, teledoc@itu.arcom.ch. *Acronym:* ITU (T-T-U).

**International Telegraph and Telephone Consultative Committee** \in-tər-nash-ə-nəl tel-ə-graf and tel-ə-fōn kən-sul-tā-tiv kə-mit-ē, kōn-sul-tā-tiv\ *n.* *See* CCITT.

**Internaut** \in-tər-nāt, in-tər-nôt\ *n.* *See* cybernaut.

**internet** \in-tər-net\ *n.* Short for internetwork. A set of computer networks that may be dissimilar and are joined together by means of gateways that handle data transfer and conversion of messages from the sending networks' protocols to those of the receiving network.

**Internet** \in-tər-net\ *n.* The worldwide collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational, and other computer systems, that route data and messages. One or more Internet nodes can go off line without endangering the Internet as a whole or causing communications on the Internet to stop, because no single computer or network controls it. The genesis of the Internet was a decentralized network called ARPANET created by the Department of Defense in 1969 to facilitate communications in the event of a nuclear attack. Eventually other networks, including BITNET, Usenet, UUCP, and NSFnet, were connected to ARPANET. Currently, the Internet offers a range of services to users, such as FTP, e-mail, the World Wide Web, Usenet news, Gopher, IRC, telnet, and others. *Also called* the Net. *See also* BITNET, FTP<sup>1</sup> (definition 1), Gopher, IRC, NSFnet, telnet<sup>1</sup>, Usenet, UUCP, World Wide Web.



**Serif.** A serif typeface (top) and a sans serif typeface (bottom).

**serif**<sup>2</sup> \sâr'if\ *n.* Any of the short lines or ornaments at the ends of the strokes that form a typeface character.

**server** \sər'vər\ *n.* **1.** On a local area network (LAN), a computer running administrative software that controls access to the network and its resources, such as printers and disk drives, and provides resources to computers functioning as workstations on the network. **2.** On the Internet or other network, a computer or program that responds to commands from a client. For example, a file server may contain an archive of data or program files; when a client submits a request for a file, the server transfers a copy of the file to the client. *See also* client/server architecture. *Compare* client (definition 3).

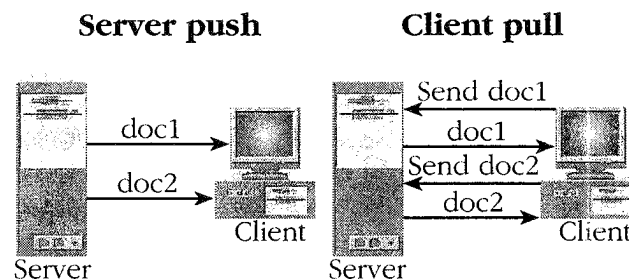
**server-based application** \sər'vər-bāsd a-plə-kā'shən\ *n.* A program that is shared over a network. The program is stored on the network server and can be used at more than one client machine at a time.

**server cluster** \sər'vər klu'stər\ *n.* A group of independent computers that work together as a single system. A server cluster presents the appearance of a single server to a client.

**server error** \sər'vər ār'ər\ *n.* A failure to complete a request for information through HTTP that results from an error at the server rather than an error by the client or the user. Server errors are indicated by HTTP status codes beginning with 5. *See also* HTTP, HTTP status codes.

**server push-pull** \sər'vər pōōsh'pul', pōōl'\ *n.* A combination of Web client/server techniques individually called "server push" and "client pull." In server push, the server loads data to the client, but

the data connection stays open. This allows the server to continue sending data to the browser as necessary. In client pull, the server loads data to the client, but the data connection does not stay open. The server sends an HTML directive to the browser telling it to reopen the connection after a certain interval to get more data or possibly to open a new URL. *See the illustration. See also* HTML, server (definition 2), URL.



**Server push-pull.**

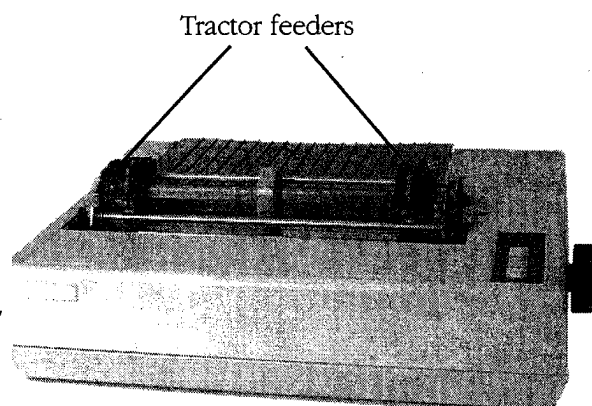
**server-side includes** \sər'vər-sīd in-klōōdz'\ *n.* A mechanism for including dynamic text in World Wide Web documents. Server-side includes are special command codes that are recognized and interpreted by the server; their output is placed in the document body before the document is sent to the browser. Server-side includes can be used, for example, to include the date/time stamp in the text of the file. *See also* server (definition 2).

**service** \sər'vəs\ *n.* **1.** A customer-based or user-oriented function, such as technical support or network provision. **2.** In reference to programming and software, a program or routine that provides support to other programs, particularly at a low (close to the hardware) level. *See also* utility.

**Service Advertising Protocol** \sər'vəs ad'vər-tī-zēng prō'tə-kol\ *n.* A method used by a service-providing node in a network (such as a file server or application server) to notify other nodes on the network that it is available for access. When a server boots, it uses the protocol to advertise its service; when the same server goes offline, it uses the protocol to announce that it is no longer available. *Acronym:* SAP (S`A-P'). *See also* server (definition 1).

**service bureau** \sər'vis byər'ō\ *n.* **1.** A company that provides various services related to publishing, such as prepress production, desktop pub-





**Tractor feed.** *Tractor feeders on a dot-matrix printer.*

**traditional newsgroup hierarchy** \trə-dish`ə-nəl nōōz`grōōp hī`ər-är-kē, hīr`är-kē\ *n.* The seven standard newsgroup categories in Usenet: comp., misc., news., rec., sci., soc., and talk. Newsgroups can be added within the traditional hierarchy only following a formal voting process. *See also* comp. newsgroups, misc. newsgroups, newsgroup, news. newsgroups, rec. newsgroups, Request for Discussion, sci. newsgroups, soc. newsgroups, talk. newsgroups, Usenet. *Compare* alt. newsgroup.

**traffic** \traf`ik\ *n.* The load carried by a communications link or channel.

**trailer** \trā`lär\ *n.* Information, typically occupying several bytes, at the tail end of a block (section) of transmitted data and often containing a checksum or other error-checking data useful for confirming the accuracy and status of the transmission. *See also* checksum. *Compare* header (definition 2).

**trailer label** \trā`lär lā`bəl\ *n.* **1.** A small block of information used in tape processing that marks the end of a file or the end of the tape and that can contain other information, such as the number of records in the file or files on the tape. *Compare* header label. **2.** A label used in communications data frames that follows the data and might contain an end-of-message mark, a checksum, and some synchronization bits.

**trailing edge** \trā`lēng ej`\ *n.* The latter part of an electronic signal. When a digital signal switches from on to off, the transition is the trailing edge of the signal.

**train**<sup>1</sup> \trān\ *n.* A sequence of items or events, such as a digital pulse train consisting of transmitted binary signals.

**train**<sup>2</sup> \trān\ *vb.* To teach an end user how to use a software or hardware product.

**transaction** \tranz-ak`shən\ *n.* A discrete activity within a computer system, such as an entry of a customer order or an update of an inventory item. Transactions are usually associated with database management, order entry, and other online systems.

**transaction file** \tranz-ak`shən fīl\ *n.* A file that contains the details of transactions, such as items and prices on invoices. It is used to update a master database file. *See also* transaction. *Compare* master file.

**transaction log** \tranz-ak`shən log\ *n.* *See* change file.

**transaction processing** \tranz-ak`shən pros`es-ēng\ *n.* A processing method in which transactions are executed immediately after they are received by the system. *See also* transaction. *Compare* batch processing (definition 3).

**Transaction Processing Council** \tranz-ak`shən pros`es-ēng koun`səl\ *n.* A group of hardware and software vendors with the goal of publishing benchmark standards. *Acronym:* TPC (T<sup>h</sup>P-C<sup>ouncil</sup>).

**transaction processing monitor** \tranz-ak`shən pros-es-ēng mon`ə-tər\ *n.* *See* TP monitor.

**transceiver** \tran`sē`vər\ *n.* Short for **transmitter/receiver**. A device that can both transmit and receive signals. On local area networks, a transceiver is the device that connects a computer to the network.

**transceiver cable** \tran-sē`vər kā`bl\ *n.* A cable that is used to connect a host adapter within a computer to a local area network (LAN). *See also* AUI cable, LAN.

**transducer** \tranz`dōō`sər\ *n.* A device that converts one form of energy into another. Electronic transducers either convert electric energy to another form of energy or convert nonelectric to electric energy.

**transfer** \trans`fər\ *n.* **1.** The movement of data from one location to another. **2.** The passing of program control from one portion of code to another.

**transfer rate** \trans`fər rāt\ *n.* The rate at which a circuit or a communications channel transfers information from source to destination, as over a network or to and from a disk drive. *Transfer*